**SOFTWARE FOR OPTIMUM DESIGN OF HIGHWAY BRIDGE BEAMS.**

Al-Gahtani, Ahmad, Bhattit, M.Asghar

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**Abstract:** A software system for analysis and optimum design of welded plate beams subjected to AASHTO highway bridge loads and specifications is described. The system has the capability to design beams with or without the composite action between the beam and the roadway slab. The composite design can be either a shored design where all loads are carried by the composite beam or an unshored design where the steel beam alone carries the dead loads. The beams can be designed as stiffened with side stiffeners to support the web plate or without stiffeners (unstiffened). Uniform and nonuniform designs can be considered by dividing the beam into groups of elements having the same design variables. The paper presents a brief overview of the software system. Some of the important features of the software are shown with numerical examples.